

**Remarks**

Claims 1-5 are in the case.

The concept leading to the invention of these claims is to provide a partially biodegradable pH sensitive temperature sensitive hydrogel; see [0006] and [0007] of published application. The hydrogel is formed by photocrosslinking of dextran-maleic acid monoester (Dex-Ma) and N-isopropylacrylamide (NIPAAM). The Dex-Ma provides pH sensitivity and partial biodegradability. The NIPAAM provides temperature sensitivity. The application shows the following: The pH sensitivity can be modified by modifying the amount of Dex-Ma (see Fig. 5). The temperature sensitivity can be modified by modifying the amount of NIPAAM (see Fig. 1). In addition the invention allows for alteration of swelling properties by variation of the degree of substitution of Dex-Ma.

There are three rejections. Claims 1 and 2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hokkoku et al. U.S. Patent No. 4,032,488 in view of Uludag et al. U.S. 2002/0015734. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hokkoku et al. in view of Uludag. Claims 3 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hokkoku et al. in view of Uludag further in view of Kim et al. WO 00/12619 as evidenced by Hawley.

Reconsideration is requested.

The rejections are all submitted to be defective because the combination of Hokkoku et al. and Uludag is defective.

Firstly, the combination is defective because the invention relies on the conception of a pH sensitive, temperature sensitive hydrogel. The applied prior art fails to teach this idea so there is no motivation in the applied prior art to combine pH sensitive compound (Dex-Ma) with temperature sensitive compound. Moreover, the Hokkoku plus Uludag combination even lacks the concept of a pH sensitive hydrogel so selection in Hokkoku et al. to provide this is not obvious. Furthermore, Hokkoku at column 14, lines 16-39, doesn't teach a Dex-Ma hydrogel but only dextran ester hydrogels where acrylamide is not involved (so reliance on 14/16-39 of Hokkoku is misplaced).

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Nor is this the case suggested by KRS for obviousness of the simple substitution of one element for another. Hokkoku et al. teaches unsaturated acid/anhydride/halide compound and polymerizable olefin compound. Specifics are listed in columns 3 and 4 of Hokkoku. Listed are fourteen specific unsaturated acid/anhydride/halide compounds and eighty-five specific olefin components. It is conceded that maleic acid is listed as an unsaturated acid. Even conceding that a genus of acrylamides is listed, selection of one combination from over 1,000 combinations that are possible from the applied prior art is necessary to provide the claimed invention. This is not simple substitution. Analogy is to combination lock with two dials when one dial has fourteen numbers and the other dial eighty-five numbers. Meeting the combination would clearly not be simple but the scenario provided in the Office Action is even further removed. The acrylamide at column 4, line 10 of Hokkoku et al. is not a genus as the Office Action would imply but only a single compound different from NIPAAM. The genus rather is alkylamide of acrylic acid requiring further selection from among all alkylamides of acrylic acid.

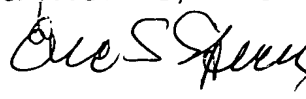
It is submitted that the above shows impermissible hindsight combination.

We turn now to claim 4 which requires an LCST less than or near body temperature. The Office Action indicates that evidence that this is not inherent would provide patentability. The evidence is Figure 1 of the instant patent application which shows that for somewhere over 65% Dex-Ma the LCST of claim 4 is not met (see Figure 1 and Table 1), so no inherence is present for this portion of the range.

Allowance is requested.

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